

SEQUENCE LISTING

<110> Liaw, Gin
Pedersen, Sven
Hendriksen, Sven

<120> A Method of Producing Saccharide
Preparations

<130> 5318.200-US

<140> 09/198,672

<141> 1998-11-23

<160> 5

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 1605

<212> DNA

<213> Aspergillus Niger

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<222> (73)...(1602)

<221> CDS

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ttg gca aat gtg att tcc aag cgc gcg acc ttg gat tca tgg ttg agc	96
Leu Ala Asn Val Ile Ser Lys Arg Ala Thr Leu Asp Ser Trp Leu Ser	
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aac gaa gcg acc gtg gct cgt act gcc atc ctg aat aac atc ggg gcg	144
Asn Glu Ala Thr Val Ala Arg Thr Ala Ile Leu Asn Asn Ile Gly Ala	
10 15 20	

gac ggt gct tgg gtg tcg ggc gcg gac tct ggc att gtc gtt gct agt	192
Asp Gly Ala Trp Val Ser Gly Ala Asp Ser Gly Ile Val Val Ala Ser	
25 30 35 40	

ccc agc acg gat aac ccg gac tac ttc tac acc tgg act cgc gac tct	240
Pro Ser Thr Asp Asn Pro Asp Tyr Phe Tyr Thr Trp Thr Arg Asp Ser	
45 50 55	

ggt ctc gtc ctc aag acc ctc gtc gat ctc ttc cga aat gga gat acc	288
Gly Leu Val Leu Lys Thr Leu Val Asp Leu Phe Arg Asn Gly Asp Thr	

60						65						70						
agt	ctc	ctc	tcc	acc	att	gag	aac	tac	atc	tcc	gcc	cag	gca	att	gtc	336		
Ser	Leu	Leu	Ser	Thr	Ile	Glu	Asn	Tyr	Ile	Ser	Ala	Gln	Ala	Ile	Val			
75			80			85												
cag	ggt	atc	agt	aac	ccc	tct	ggt	gat	ctg	tcc	agc	ggc	gct	ggt	ctc	384		
Gln	Gly	Ile	Ser	Asn	Pro	Ser	Gly	Asp	Leu	Ser	Ser	Gly	Ala	Gly	Leu			
90			95			100												
ggt	gaa	ccc	aag	ttc	aat	gtc	gat	gag	act	gcc	tac	act	ggt	tct	tgg	432		
Gly	Glu	Pro	Lys	Phe	Asn	Val	Asp	Glu	Thr	Ala	Tyr	Thr	Gly	Ser	Trp			
105			110			115			120									
gga	cgg	ccg	cag	cga	gat	ggt	ccg	gct	ctg	aga	gca	act	gct	atg	atc	480		
Gly	Arg	Pro	Gln	Arg	Asp	Gly	Pro	Ala	Leu	Arg	Ala	Thr	Ala	Met	Ile			
125			130			135												
ggc	ttc	ggg	cag	tgg	ctg	ctt	gac	aat	ggc	tac	acc	agc	acc	gca	acg	528		
Gly	Phe	Gly	Gln	Trp	Leu	Leu	Asp	Asn	Gly	Tyr	Thr	Ser	Thr	Ala	Thr			
140			145			150												
gac	att	ggt	tgg	ccc	ctc	gtt	agg	aac	gac	ctg	tcg	tat	gtg	gct	caa	576		
Asp	Ile	Val	Trp	Pro	Leu	Val	Arg	Asn	Asp	Leu	Ser	Tyr	Val	Ala	Gln			
155			160			165												
tac	tgg	aac	cag	aca	gga	tat	gat	ctc	tgg	gaa	gaa	gtc	aat	ggc	tcg	624		
Tyr	Trp	Asn	Gln	Thr	Gly	Tyr	Asp	Leu	Trp	Glu	Glu	Val	Asn	Gly	Ser			
170			175			180												
tct	ttc	ttt	acg	att	gct	gtg	caa	cac	cgc	gcc	ctt	gtc	gaa	ggt	agt	672		
Ser	Phe	Phe	Thr	Ile	Ala	Val	Gln	His	Arg	Ala	Leu	Val	Glu	Gly	Ser			
185			190			195						200						
gcc	ttc	gcg	acg	gcc	gtc	ggc	tcg	tcc	tgc	tcc	tgg	tgt	gat	tct	cag	720		
Ala	Phe	Ala	Thr	Ala	Val	Gly	Ser	Ser	Cys	Ser	Trp	Cys	Asp	Ser	Gln			
205			210			215												
gca	ccc	gaa	att	ctc	tgc	tac	ctg	cag	tcc	ttc	tgg	acc	ggc	agc	ttc	768		
Ala	Pro	Glu	Ile	Leu	Cys	Tyr	Leu	Gln	Ser	Phe	Trp	Thr	Gly	Ser	Phe			
220			225			230												
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Ile	Leu	Ala	Asn	Phe	Asp	Ser	Ser	Arg	Ser	Gly	Lys	Asp	Ala	Asn	Thr			
235			240			245												
ctc	ctg	gga	agc	atc	cac	acc	ttt	gat	cct	gag	gcc	gca	tgc	gac	gac	864		
Leu	Leu	Gly	Ser	Ile	His	Thr	Phe	Asp	Pro	Glu	Ala	Ala	Cys	Asp	Asp			
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tcc	acc	ttc	cag	ccc	tgc	tcc	ccg	cgc	gcg	ctc	gcc	aac	cac	aag	gag	912		
Ser	Thr	Phe	Gln	Pro	Cys	Ser	Pro	Arg	Ala	Leu	Ala	Asn	His	Lys	Glu			
265			270			275						280						
gtt	gta	gac	tct	ttc	cgc	tca	atc	tat	acc	ctc	aac	gat	ggt	ctc	agt	960		
Val	Val	Asp	Ser	Phe	Arg	Ser	Ile	Tyr	Thr	Leu	Asn	Asp	Gly	Leu	Ser			
285			290			295												

gac agc gag gct gtt gcg gtg ggt cgg tac cct gag gac acg tac tac	1008
Asp Ser Glu Ala Val Ala Val Gly Arg Tyr Pro Glu Asp Thr Tyr Tyr	
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aac ggc aac ccg tgg ttc ctg tgc acc ttg gct gcc gca gag cag ttg	1056
Asn Gly Asn Pro Trp Phe Leu Cys Thr Leu Ala Ala Ala Glu Gln Leu	
315 320 325	
tac gat gct cta tac cag tgg gac aag cag ggg tcg ttg gag gtc aca	1104
Tyr Asp Ala Leu Tyr Gln Trp Asp Lys Gln Gly Ser Leu Glu Val Thr	
330 335 340	
gat gtg tcg ctg gac ttc ttc aag gca ctg tac agc gat gct gct act	1152
Asp Val Ser Leu Asp Phe Phe Lys Ala Leu Tyr Ser Asp Ala Ala Thr	
345 350 355 360	
ggc acc tac tct tcg tcc agt tcg act tat agt agc att gta gat gcc	1200
Gly Thr Tyr Ser Ser Ser Ser Thr Tyr Ser Ser Ile Val Asp Ala	
365 370 375	
gtg aag act ttc gcc gat ggc ttc gtc tct att gtg gaa act cac gcc	1248
Val Lys Thr Phe Ala Asp Gly Phe Val Ser Ile Val Glu Thr His Ala	
380 385 390	
gca agc aac ggc tcc atg tcc gag caa tac gac aag tct gat ggc gag	1296
Ala Ser Asn Gly Ser Met Ser Glu Gln Tyr Asp Lys Ser Asp Gly Glu	
395 400 405	
cag ctt tcc gct cgc gac ctg acc tgg tct tat gct gct ctg ctg acc	1344
Gln Leu Ser Ala Arg Asp Leu Thr Trp Ser Tyr Ala Ala Leu Leu Thr	
410 415 420	
gcc aac aac cgt cgt aac tcc gtc gtg cct gct tct tgg ggc gag acc	1392
Ala Asn Asn Arg Arg Asn Ser Val Val Pro Ala Ser Trp Gly Glu Thr	
425 430 435 440	
tct gcc agc agc gtg ccc ggc acc tgt gcg gcc aca tct gcc att ggt	1440
Ser Ala Ser Ser Val Pro Gly Thr Cys Ala Ala Thr Ser Ala Ile Gly	
445 450 455	
acc tac agc agt gtg act gtc acc tcg tgg ccg agt atc gtg gct act	1488
Thr Tyr Ser Ser Val Thr Val Thr Ser Trp Pro Ser Ile Val Ala Thr	
460 465 470	
ggc ggc acc act acg acg gct acc ccc act gga tcc ggc agc gtg acc	1536
Gly Gly Thr Thr Thr Ala Thr Pro Thr Gly Ser Gly Ser Val Thr	
475 480 485	
tcg acc agc aag acc acc gcg act gct agc aag acc agc acc acg acc	1584
Ser Thr Ser Lys Thr Thr Ala Thr Ala Ser Lys Thr Ser Thr Thr Thr	
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 Val Lys Thr Phe Ala Asp Gly Phe Val Ser Ile Val Glu Thr His Ala
 380 385 390
 Ala Ser Asn Gly Ser Met Ser Glu Gln Tyr Asp Lys Ser Asp Gly Glu
 395 400 405
 Gln Leu Ser Ala Arg Asp Leu Thr Trp Ser Tyr Ala Ala Leu Leu Thr
 410 415 420
 Ala Asn Asn Arg Arg Asn Ser Val Val Pro Ala Ser Trp Gly Glu Thr
 425 430 435 440
 Ser Ala Ser Ser Val Pro Gly Thr Cys Ala Ala Thr Ser Ala Ile Gly
 445 450 455
 Thr Tyr Ser Ser Val Thr Val Thr Ser Trp Pro Ser Ile Val Ala Thr
 460 465 470
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24